

CANADA'S COMPUTER INFORMATION

The COMPUTER PAPER

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REVIEWS

FEATURES

ONTARIO EDITION JULY 1992 VOLUME 4 NO. 7

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From the Editor



Is now the time to buy?

This was the question posed to me as a recent CPC editor drew. I step across the world of computing innovation on the set of the world. The reason for this most recent innovation was the thought surrounding Spring Computers in Atlanta and the current pursuit of Windows NT and some more powerful microprocessors to run it on. NT is a major new operating system and the DEC alpha and the Intel Pentium promise unusual speed and performance increases. Change often brings us fear of the unknown. Consumers don't want to be that last user to buy an 8-inch tape or a five-frame video tape.

Real Costs Now

What all this hype doesn't tell you is that it will be a while before these products arrive their full potential. In the computer industry, there is a standard term "Real Costs Now" (RCN)—meaning that given the vagaries of software and hardware development, we can't tell you exactly when the new products will be available (yet).

The big issue here on more new performance. Many will recall that in the initial test from 386 to 486 and then 486 to 486 computers, the margin of performance improvements was small because last day done vendors were pushing the edge of the envelope by selling higher MHz versions of the same chip. In both cases, the new chips actually didn't reach their rated and were usually sold at a premium.

"Going Further"

To really take advantage of the power of the new Pentium chip, or the DEC Alpha chip, software vendors will have to reengineer their software to "speak" to the new chips. The analogy here would be that if the chip is an engine, and software the fuel, then what you cannot have an engine that could not run on fuel to extend gas you would have to re-engineer the fuel. This will take time. Don't expect to see much of it happen within your or a fraction.

Killer Apps

Ultimately software vendors will be looking for the next "killer app" to sell their new systems. A killer app is a specific application program that is so good that you buy the computer to run it. Personal instances of this were programs like Lotus 1-2-3, which clearly killed Microsoft's rival spreadsheet.

In some parts of this note you're asked: How fast does your computer have to run? I will give you a hint: In today's word processing documents, high-speed computers can process text and high speeds—multimedia, video processing, video conferencing, desktop publishing, Computer Aided Design, large-scale scientific processing, large databases in multi-user access, etc.

Buy now—upgrade later

Consider what you can buy now instead of a Pentium or a DEC Alpha. For the price that premium vendors will want to extract from the "early adopters" you can add a pile of options to your PC. I mentioned people look at this week first. If you are currently interested in buying a PC, don't hold off. Instead, try to get your money now. Consider the kinds of things that will add utility to your computer. Instead of buying the latest PC, consider looking up your PC with RAM in that your program will run faster and better. Look for high video often incredible speed boost to existing systems. Super hard drive makes sense having to say "Delete" CD-ROMs and sound boards can offer you new capabilities of entertainment, multimedia collections of clips on or video clips. Teleconferencing software and your games. High-speed printers allow you to buy more files and information services to download the latest software, or keep to even with electronic mail. Here a little thought that the areas of the technological services—either from the power of the chips, you will find the "pay" systems often better service. Video output board, laser printers or color printers under the wonderful multi-point in the computer domain with your friends and contacts.

Bottom line

Think about what your needs are now and what they are likely to be in the future. Consider getting a computer with an upgrade potential, so that you can simply add the new chip into your PC to a new Pentium chip. If needed, however, not all systems are designed to deal with the extra heat that the current generation of Pentium chips put off. Manufacturers currently planning to have "Pentium-ready" systems are likely only offering limited upgrade technology and not the full word with all of course for a full internal upgrade, which is not compatible with the current (Pentium) ones.

Should you buy now?

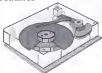
In depends. Look at your needs. What do you want to do with your computer and how soon do you want to start doing it? There will always be new "bigger" things. Would you still be buying a car because electric cars will be here that come now? Perhaps—a depends on how far you have to ride your bike to work.

David Smith and I at a Computer Canada July 13-15. We will have a display showing the latest Computer Canada for Construction (411) in book 5437—right next to the big 1993 CD-ROM.

David Smith
David Smith Editor
Publisher/Editor

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Hiromi Miyazaki, Ph.D., is an EMT
Full Computer Programmer, Ltd. Chamae, Tokyo
Technical Staff, Chamae, Ltd. Tokyo

[illegible]

what's new



ZipCode releases Windows version of Postal Code lookup package

ZipCode Software Ltd. recently released its Windows version of its Postal Code lookup software. ZipCode converts its e-sorted addresses or adds missing address information to conform with Canada Post's requirements for mailings done in Canada. ZipCode's database, weighing in at 144 MB of data, comes from Canada Post. They use state-of-the-art compression technology to get it down to 6.5 MB (it will fit on one

diskette). ZipCode also comes with a Mail-aids that will print your list according to the standards requested by Canada Post.

The DOS version requires only 4,000 of RAM and runs as a TSR.

According to the company, Canada Post makes up to 30,000 changes to their database monthly. ZipCode offers bi-monthly or quarterly updates to their software to keep users up to date.

ZipCode also offers a separate program called ZipMail, which will verify any data base that is in DBF or ASCII file format. It will insert the right postal code at a rate of 30,000 records per hour. ZipMail includes ZipCode.

Contact: ZipCode Software Inc. (416) 896-4000

Press Conferences we are sorry we missed....

To announce a new line of lineal "style business" products, Computer Hardware brought along Scott Marlowing, "The Human Calculator" to demonstrate the software with digits. Marlowing is apparently famous for his ability to solve obscure math problems in his head.

Messages for Moving targets (Pager Users)

Offline looking for a computer-based, centralized messaging system should consider Message Manager from MIPPO Systems Solutions Inc. The MS-DOS-based system allows users to record incoming messages. Messages can then be delivered to fax machines, printers or pages. The software allows the user to set up a GUI-compatible (it looks like a pseudo-Windows program) TUI-based (it pops up onto your word processor in spreadsheet taking very little memory) database of users. Note that this system is not a network-based e-Mail system. The developers claim that in certain situations, their solution is more appropriate. They note that when e-Mail is not used, it becomes tedious. With their system, one person is responsible for recording messages and directing them to the appropriate location so that the messages get read.

Contact: MIPPO Systems Solutions Inc.
Contact: (416) 734-8574

Zebra POS chosen for 1994 Commonwealth Games

Extra Point of Sale System was recently chosen for use at the 1994 BC Commonwealth Games. The system is in its eighth year and features a new agent processor and a built-in accurate scaleable module. The system can be customized to a variety of uses, including support for inventory retail, wholesale retail, retail equipment rental, hair salon, dry cleaner, sports management and fundraising. System requirements are DOS 3.1 or higher, 480K of RAM, and a hard disk.

Contact: Synergy Software, Inc. (800) 858-7671



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what's new

ATI offers new Drivers for Windows Accelerators

Owners of ATI Graphics Ultra, Graphics Venture or X300/Ultra Windows 9x users who experience should contact ATI for new integrated Windows drivers. The new drivers add a control panel for users adjustment of screen resolution and color depth. They are free to users of the aforementioned cards.

Abstract

CorelDRAW Magazine launched

For \$49.95, you too can become a subscriber to *Contemporary Magazine*—a new journal dedicated exclusively to *Contemporary*!

Continued: Carol Maguire, Author: *Times* (2007)
1990, 1998

Government uses Multimedia to promote Canadian High Tech Companies

investment Canada is using outflows to bank-based foreign investors to promote economic development. The funds are designed to help promote investors in a broad look at some of Canada's leading economic sectors, including transportation, communications, health care, energy, and information technology. The funds provide over 100 Canadian companies in microfinance, software development and computer hardware industries. The funds will also provide assistance to existing start-ups for business in London. The microfinance program was developed by Ontario-based Ontario Development Corporation in conjunction with My Design, a Toronto-based design and development company of Ontario. The funds run on a not-for-profit basis and are managed by Ontario Development Corporation, which is a not-for-profit organization. The funds are managed by Ontario Development Corporation, which is a not-for-profit organization. The funds are managed by Ontario Development Corporation, which is a not-for-profit organization.

Contact: Investment Counsel: Greg Marshall
at 214.343.8000

New Business Group Forms to Promote High-tech in Toronto

The Toronto Technology Network (TTN) is a newly formed association with the goal of increasing awareness of Toronto as a center for high-tech firms and to facilitate dialogue between local high-tech firms. Founding members include Autodesk, the City of Toronto, Intel, iVillage, Intelnet Digital, Colson McCarthy Ormish, Saurer, Toronto and the University of Toronto.

Constant, TTPs, Kinetic Modeling, Ahmed H. Elmaghrabi
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Image Club Graphics announces Spring Font Collection

In your next window being a little dull? Check out Image Club Graphics' new spring collection available individually or as an all-in-one Postcard. The collection is scheduled for release this weekend, but you can

[illegible]

versions of high quality, low-priced fonts. They also were one of the pioneers in offering CD-ROM collections of fonts that would save (and unlock) fonts on an as-needed basis. They currently lay claim to having the largest Windows 3.1 TrueType font libraries, with over 600 original and licensed offerings.

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what's new

ClarisWorks for Windows Released



TOBACCO — Claris Canada has released a version of ClarisWorks for Windows, a PC-based version of their best-selling ClarisWorks for the Macintosh. ClarisWorks is a combination word processing, graphics database, spreadsheet and communications package.

Using a single graphical interface for all applications, the user can choose to use any function at any time within the program. Users already familiar with the Macintosh version will find that it is essentially the same program, and can transfer files from one platform to another as long as they have enough free hard and free floppy space in a DOS format.

For all its functionality, it is a relatively small program, taking up only 3 MB of hard disk space after installation. It is targeted primarily at new buyers: small businesses, schools, even looking to conserve disk space, business professionals, students and educators.

The suggested retail price is \$149; the single August 15th it will be offered at \$129.

Contact: Claris Canada, 1-800-888-8888

Xerox Introduces Personal Laser Printer



NORTH **FOCUS** — Xerox's new personal laser printer is called the Phaser 4000. Designed to

work as either a stand-alone printer or connected to a host via network, this compact one print is paper can produce at 300 x 300 dots per inch resolution.

It comes standard with 3 MB of RAM which can be expanded to 5 MB. It is PC-DOS compatible, and comes with 14 built-in fonts. It can handle 10-600 pages per month, and can print on many sizes and weights of paper stock. It is a very compact machine measuring 15 x 12 x 14 inches (40 x 30 x 35 cm), and weighs 16 pounds (7.3 kg).

The suggested list price for the Xerox Phaser 4000 is \$1,110.

Contact: Xerox Canada Ltd., (416) 829-5700

Correction:

Ontario Edition June '93 in the Mac Software Family list article on page 11, the reference to LDR compression should have been LDR, and the numbers (unzip) 288 and 192kb LDR is the type of compression used for Compaq's GIP device and costs \$349 list.

New Publication for Internet Business Users

ATTN@ — Getting itself the information source for the virtual business community, Internet's magazine that has launched the Internet Business Journal. It is the first publication to deal exclusively with the Internet business community, and provides detailed analysis of current and opportunities on the Internet.

Commercial interests are playing a large

role in shaping the Internet, a rapidly expanding electronic communications network. The monthly publication estimates that by the end of the decade there may be as many as 50 million commercial users on the Internet.

Articles in the first issue include stories on virtual marketplace, advertising on the Internet, and profiles of business currently

using Internet services.

It will be published at least a year, and an annual and a half edition option costs \$179. For additional information and subscription the rate is \$29.

Contact: Strategic Press (416) 347-4500 or (800) 364-6676/Computers/Get on the Internet.

More What's New on Page 45

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The following article is rated "5 brownies" and is intended for technically advanced PC users. Ed

Installing PC Hard Disks

BY NICK MAJORS & PETE ROGERS

Part 1 Installing & Configuring

Installation

To successfully install or replace a hard disk drive, you should always have documentation for the drive's built-in and for the controller's and for the hard adapter. Without proper documentation it will be difficult to interpret jumpers and settings and may be impossible to locate problems.

Most manufacturers now have bulletin boards for downloading copies of manuals.

(Physical) Manuals are too old, controllers outdated, adapters:

1. Some cards provide for fixed disk only — some for both hard disks and floppy.
2. Ensure that the floppy controller (if present on card) is the only one in system — or disable it.
3. Does the controller have a BIOS chip on it?
 - XT — Always
 - AT (M164) — YES
 - AT (386) — YES
 - ISA — YES
 - SCSI — YES
 - EISA — Normally No

4. Most controllers with a BIOS allow you to specify the upper memory address in RAM. The default is either 0000.

Make sure that whatever address is entered — it does not conflict with other devices in the PC (network board, etc.) or with any memory management software.

Special note about BIOS chips: The upper memory blocks of PCs are assumed reserved for use by certain hardware and system devices. These devices can be accessed with either an 8-bit or 16-bit path to data. If you use BIOS in 16 bits, and any other device — such as network board or VGA card — can only use 8-bit data path, you may not be able to correctly access the BIOS. If your system has trouble recognizing a hard disk, ensure that all devices are using the same data path.

Cabling, Drive Select & Termination. Different cables attach to the drive and controller by either a card or pin edge connector. Make sure that the cables you want to use match up correctly with the connectors on both sides. The cables are coded, with pin 1 being colored red or blue to help you out when correctly.

Standard IDE drives require two ribbon cables: a 34-pin control cable and a 20-

pin data cable. The data cable is always a straight (though correction: not real), but the control cable may be either straight or twisted.

Cable Terminals — Both hard and floppy configurations provide the connection of two drives with a straight-through "master/slave" cable. If this was done, you would have to set a drive either jumper on each drive to determine with the first and which is the second.

Most people inevitably jump floppy drives from one machine to another, it is now standard to jumper all floppies the same and then to have a label in the cable that denotes the drive select and master/slave lines so that you mark both drives as the same they react in different signals. All floppies are normally set to be the second drive and are connected at the end of a cable where the master pins its signals connected to master as the first drive. To have a drive if there must always be a label in the cable.

It is the same with IDE drives, but while floppies are all jumpered to the second drive select — hard drives are not. Configurable as either first or second. If a hard disk is jumpered to be the first drive, it needs a straight-through control cable — but if it is set to the second drive, it needs a twisted cable.

SCSI Cables: While both floppy drives and hard drive control cables are 34-pin ribbon drives with a twist to their four differential lines control.

Floppy ribbon leads (pins 19 through 16) close to pin 1 (the colored line) while hard drive control cables twist lines 15 to 19, close to the other end.

20-pin drives are configured with one straight data cable (30-pins) for each drive (maximum of two) and one single (34-pins) control cable. With two drives, each gets its own 30-pin data cable but the single control cable must have two connections on it (one for each drive).

For a single drive, the control cable can be straight if drive jumper is set to first drive or twisted if drive jumper is set to second drive. If both connections on the control cable (in a two-drive setup) go straight through (no twist) then the drive jumper must be set so that one of those is the first drive and the other the second drive. If the end connector comes after a twist, then both drives can be configured the same and the one after the twist will react to different signals.

The last drive on any control cable (at the end) must have a terminating resistor on it and any drive plugged in before it must have its terminator removed.

This is especially important if you are

moving a drive from one computer to another or when adding a second drive.

IDE drives use the same cables as ST 504 systems that with different signals on each lead. They have the same options with regard to twisted or straight control cables, drives are connected to a drive adapter by means of a single 30-pin ribbon cable. No configuration with twist. If there is more than one drive attached to the same host adapter, it is connected to an additional connector on the cable instead of drive select; a unique SCSI ID number must be assigned to each drive, (normally numbered from 1 to 7). Once again, the last drive on a cable must have a terminating resistor, and any drive plugged in before it must have its terminator removed.

IDE drives are connected to a host adapter with a single ribbon IDE cable. No twist. IDE drives are configured as either single drive, Master drive or Slave drive by jumpers at dip switches. You should always have documentation. With the drive alone, single drive is selected, with two drives one must be master and the other slave. These switches normally configure both drive select and termination.

Power Cables

The hard drive needs DC power (5 volts for electronics and 12 volts for motors) from a standard power connector coming off the power supply. This connector is different or modified to two versions to match with the outlet on the drive assembly. Make sure it is connected the correct way. Some external computers use special cabling that both controls the drive and carries power through one ribbon cable. If you are leaving enough to remove inside notebooks count the number of lines in any cable and make sure it is standard 30, 34, 40- or 50-line cable. If it is different — do not mix changes without technical help.

WARNING: If cables, drive select, or termination is incorrect the drive(s) will not operate correctly but no harm should be done to the system. BUT if you connect the power cables wrong, you will destroy the drive!

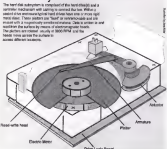
If cabled incorrectly some IDE drives, with single ribbon cable may prevent the computer from starting up at all. If this happens, check your cabling.

Setting the Drive Type: Drive parameter tables are used to tell the computer the physical geometry of the drive(s) to be used.

Anatomy of a Hard Drive

The hard disk subsystem is composed of the hard disk(s) and a controller mechanism with timing is controlled by bus lines. While a master drive communicates with slave drives bus lines are more and more dense. These cables are "hard" or microcabled and are mounted with a magnetically sensitive orientation. Data is sent in and out of the surface by means of electromagnetic heads.

The drives are oriented, usually at 90-degree and the heads move across the surface to access different locations.



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► December 11 1919: The U.S. Supreme Court upholds racial segregation laws. The Court ruled that states could require separate schools for African Americans. The decision was based on the "separate but equal" doctrine established in the 1896 Plessy vs. Ferguson case. The Court ruled that segregation did not violate the 14th Amendment's equal protection clause.

CHAPTER 1

Small business owners and managers are being encouraged to consider alternative methods of financing their business. The Small Business Administration (SBA) is offering a variety of financing options, including microloans, which are loans of up to \$50,000. The SBA also offers a variety of other financing options, including SBA-backed loans, which are loans that are guaranteed by the SBA. The SBA also offers a variety of other financing options, including SBA-backed loans, which are loans that are guaranteed by the SBA.

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James Earl Ray, **March 19** (b. 1928, in London, England; d. 1998, in London, England) was an American-born British criminal who was convicted of the assassination of Dr. Martin Luther King Jr. in 1969. Ray was sentenced to the death penalty, but his sentence was later commuted to life imprisonment. He was released from prison in 1991.

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HIGHLIGHT GAMES

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2004-2005 **1000 Best** list. The **1000 Best** list is a ranking of the top 1000 companies in the world, based on their performance in the past year. The list is compiled by **Forbes** magazine. The list is a ranking of the top 1000 companies in the world, based on their performance in the past year. The list is compiled by **Forbes** magazine. The list is a ranking of the top 1000 companies in the world, based on their performance in the past year. The list is compiled by **Forbes** magazine.

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SyDOS

Continued from page 23

The Computer Paper installed and tested the SyDOS drive. Here's what we found:

The package contains the single-height drive mechanism, a 7-inch ISA card and a 3.5-inch floppy disk containing software drivers for DOS and Windows, along with a manual and a blank SyDOS disk.

We were pleased to see that the drive was CMA approved.

The software set has a daunting number of jumpers on it, but at least there is a table with arrows on the card that shows the ID

addresses, interrupt settings and DMA addresses for each of the various settings. If you are not familiar with these items, we can loan you the thoughts of Billings with a clean head, you might consider leaving your drive installed in your old drive slot.

The first mechanism for the drive is similar to that of the older 5.25" floppy drive but it takes a little getting used to. There is a push-button mechanism that pops the eject door open.

Because the new mechanism will not pop out the tape that prevents the rotation of a disk will be safe to do to facilitate the drive being, there is no other light, as it found

in the older 5.25" floppy drive that indicates when the drive is coming up to speed or preparing to eject. The only visible activity indicator on the SyDOS drive is a green activity light that glows when the drive is accessed.

We found we had good on our 44000 test machine. The SyDOS drive copied a one-megabyte file in 7.9 seconds. A memory of 27 files totaling 10 megabytes took 1.35, or almost exactly ten times as long.

According to a SyDOS spokesperson, the company does not support the Macintosh although SCSI models of the 3.5" drive are available from several vendors that produce drives for the Mac and other non-PC platforms.

learn using SyDOS's documentation.

There is a problem that can happen with removable drives, especially if the system is set up with a "fixed boot" option with DOS and utilities. It is imperative that users of SyDOS, Windows, Windows NT, OS/2 and other PC operating environments refer to disk drivers by letter path assignments or get manually loaded up of a new drive is added. Specially CONFIG.SYS and PATH commands don't point to the right place, etc.

The same type of situation can occur if you have multiple hard drives or partitions on your PC. If you only have one DOS, depending on the ability of Support Technologies (800-528-6334 ext. 4100), DOS 6.03i DoubleSpace compressed drives and "spinning" drive letters complicate the user even further. He explained that the way the drive is connected to the PC can also affect how DOS treats it at startup time. The card that controls the drive (known as a "host adapter") sometimes translates the drive to be in the state of SCSI, with an ID number. In other cases, DOS takes care of the assignments (because Macs use only SCSI hard drives, they do not require this card).

There are a few ways PC users can work around this problem. The first rule of thumb is to always place your hard disk before removable drives in your drive "chain." That way, the removable drives will be mapped after the fixed disks or partitions have all been mounted.

Another solution is to format your removable disk as an "removable partition," which will force it to always be installed after primary drives and partitions are mounted. The disadvantage of this method is that you will not be able to boot from this disk in your primary fixed disk fails. Of course, you could always keep another floppy disk on hand that is formatted as a "primary partition."

The "boot last" method of course is to always have a removable disk mounted and mounted during boot up. Depending on your computer's operating system and configuration, you may be able to manage drive letters via software.

Also, you should determine if the computer's automatic backup tool is capable of overwriting DOS in swapping a drive to another location. This will probably require a careful examination of your drive's own manual.

The plastic shell that contains the hard disk platters does not have the same sliding plastic door mechanism as in that the earlier 4.44 inch disk, but instead has a locking metal flap that flips up where the disk is located inside the drive. Fortunately the 3.5" platters are subject to the same problems that concern that the large disks are having had a number of access problems even the year with our SyDOS disks. Fortunately formatted SyDOS platters don't typically develop unless more after several months of use, we strongly advise you to be nothing short of fanatical about keeping SyDOS disks free from dust keep them in their cases in the drive at all times. Despite the 3-year warranty on the media, you may see on the drive, you probably won't want to use your data.

Conclusion

SyDOS's technology is a means that, convenient and reliable storage on removable media to keep up your business data with ease and keep them especially durable. The latest generation SyDOS 3.5" disk is a long way toward fulfilling that promise. ■

Canada's Storage Experts

The collage features several advertisements for computer storage and hardware:

- Hard Drives:** Includes ads for Quantum, Magsafe, Fujitsu, and Seagate hard drives, highlighting features like capacity, speed, and reliability.
- Micro Drives:** A central ad for MICRO DRIVES CANADA, featuring a maple leaf logo and contact information: (416) 245-6676, (416) 440-0560, and (800) 265-4360.
- Software:** Includes ads for SunMoon Star, Creative Labs, Inc., and various software products like "The Great Escape" and "The Great Escape II".
- Other Hardware:** Includes ads for NEC, TMS, and other computer components.

Hard Disks

Continued from page 20

drive, of every 10 recovery jobs we receive that are attributed to virus damage, six examinations require your hard disk to be

Protecting Your Virus-Infected Data

An expert look can be written on this subject but if you follow these guidelines you can avoid most disasters:

1. Minimize a comprehensive backup program. Backing gives more protection from against disaster than proper backup techniques.
- While everyone claims to do so, we impulsively get data recovery jobs from companies whose backup — or more importantly, restore has let them down. When you need to recover data is the wrong time to find out if your tape or other media is available. Was the correct data being backed up? If your backup device will sometimes do you have access to an alternative? Is it even still being maintained?

2. Backup and have available documentation for drive and controller (your dealer or manufacturer may not be in business when you need it).
3. Record and save CMOS and configuration patterns.
4. Use a utility program to back up and send a copy of the drive's partition table or at least record the data.
5. Use a utility program such as DOS 5/Version of Diskette Information or Norton's Format. Norton's Image is one of the best of your drives Directory and FAT structure (if appropriate) and make sure it is not of that case a week. Do not run this program after you have run into difficulties.
6. Have the drive professionally disassembled (very rare these days). This will also improve performance. But make sure you have a current backup before running the program.

Understanding PC Hard Disks

This article is excerpted from a booklet published by Data Recovery Services Inc. It provides readers with knowledge of some fundamental concepts and technology that are

necessary to deal with the complexities of hard drive subsystems. It is not a technical reference guide and should not replace original documentation available from manufacturers.

Learning the ins and outs of hard disks is not a simple task and requires years of study and experience. Don't expect any book, training course, or manual to make you into an expert. But if you read and understand the subject matter covered, you will be off to a fine start. While this article refers specifically to PC and PC-compatible

systems, there is much information to benefit support personnel working with other hardware platforms.

The principal author is Nick Moore. He has been in the PC industry for 13 years, designing and developing hardware and providing system enhancements and performance tools. He is an experienced troubleshooting professional and has provided technical training to support personnel for some of Canada's leading banks, government departments, corporate users, and PC service organizations. He is the manager of

technical services for Data Recovery Services Inc.

The text has been contributed to and edited by Peter Rogers, chief services manager at DRS, who has over twenty of his 10 years of experience to ensure that this booklet is clear and comprehensive. While every attempt has been made to ensure accurate responses or insights to any still remain to phone are certain. ■

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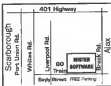
BY STEVEN M. JOHNSON



A new generation of Midwest Coast office workers has taken to the task of studying every business district closely on whether potential catches data on their computers.



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MACINTOSH PRODUCT REVIEW

Iomega Floptical for Mac

BY GRAHAM BENNETT

Revised from 1992/06

Although the drive resembles floppy, they have more in common with hard disks. Namely, a floptical disk can be shared on an AppleLink network or the Apple's System 7 "personal file sharing." Interestingly (and appropriately), the drive will not set up storage to share a standard floppy disk.

The drive was able to mount and access floptical disks without requiring a special driver, although Iomega ships a system extension with the unit that adds floptical sharing capability to the Mac's operating system. The floptical drive cannot read or write 5.25-inch disks. The unit is small enough to recognize when the wrong 3.5-inch disk has been inserted and immediately eject it, rather than presenting you with a potentially alarming "No disk read or write" dialog.

Interestingly, although the drive can read and write 1.44MB and 1.28MB PC-style disks, it cannot mount standard PC-compatible very-high-density (VHD) disks. With Apple's PC Exchange software installed, the floptical drive presented me with only the option to format a blank VHD disk as a Mac disk, although PC Exchange allowed me to format that same floppy as a DOS disk using the internal drive of a Mac. If all drives could read DOS floppies, Iomega's InfoShare/Active PC software offered to format the floptical disk as a PC disk, but formatted it with only 1.44MB of space available. After installing it as a Mac disk, it displayed 30.1 MB of available disk space again, the formatting operation took only about 30 seconds.

I called Iomega's toll-free tech support four times and got through each time without any significant delay. According to Iomega's technicians, the workload is to format the disk on an PC equipped with a floptical drive and use Access PC, or one of the other DOS disk converters to read it on the Mac.

My only other disappointment is that the drive is Mac-specific. Although you may be able to use it to back up data to a PC, the unit will not read anything other than a Mac according to Iomega. Based on my

1986 11" IIx with both System 7 SCSI and Card SCSI in use, I'd have to agree.

Share Theory

As share theorists say, "Initial conditions may vary." To be sure, the trouble-free installation and setup a Mac owner is likely to experience may be shared by a PC user. Because the PC "hard-cores" drive-identifying characters in IASIS statements, SCSI ID's, bus and Windows icons (PowerPC), have it understood when a change is made to the system that may cause drive-to-drive sharing.

Also, PC users with ISA (Industry Standard Architecture)-bus-equipped machines will undoubtedly have to fiddle with DIP switches, BIOS settings and memory banks that Mac users do not encounter. The only difficulty a Mac user is likely to encounter is with the complexities of SCSI bus!

SCSI-based computer systems connected across token rings — such with a different ID number — to be "disconnected" together. Interestingly, the floptical manual explains the potential pitfalls clearly, and the drive itself has built-in ID selection and auto-ID (SCSI termination). The key to hardware implementation.

IOE Technology

According to the company, every one of its floptical disks is a master — its optical info was track-related with a laser beam using its second-generation "Photographic Optical Tracking" technology. It is this reference track which allows floptical disks to store 18 times the amount of data of a standard floppy. When floptical disks have the reference track stamped on by a master host, Iomega and writes that its drive is a better one reliable than other brands. It is quick to point out that its disks can be used with other brands of floptical drives, too.

Although Iomega floptical disks do not appear to be formatted when you first insert them into the drive, they initialize in only 12 seconds using the Iomega drive. This company says this is because they are low-level preformatted.

The floptical connects via SCSI and Iomega works with any Mac equipped with a SCSI port. Because like II and IIx machines

lack an external floppy port, the drive is an excellent alternative to using a high-density floppy drive to store backups — especially considering the 5000 or so that most Apple design shops like a SuperDrive floppy disk" upgrade. Users of other machines, too, say that a second floppy drive is a useful addition for making backups, too. While however, the Mac floptical drive cannot host (use a high-density floppy) although it can host from a SCSI disk. The PC version of the floptical drive can host a 5.25-inch VHD disk and then makes a floptical drive a viable replacement for the "A" drive in an IBM-compatible machine.

Of course, backups are why most people will want a floptical drive, anyway. The advantage of being able to store over 20 megabytes on a single removable disk is obvious. The fact that the media is quite low in cost adds to the appeal.

A blank 1.44MB floptical disk costs about US\$2.00. A 1.28MB unit for both PC computers and reads for about US\$2.50.

Extra cartridges for a 2.88 MB optical drive are only US\$30.

A name-brand high-density floppy disks can be obtained at about US\$20.

Performance

I had no problems using the drive. That is that it is no late night. I tested it on a Quadra 700 running System 7.1. According to Iomega, it also works with System 6.5. Overall, the floptical is quick to insert, eject, and use of standard " floppy technology." The floptical copied a 1.44MB file to hard disk in 34 seconds. Iomega says you can also test performance on CD-ROM and hard disk drives described in the June 1993 issue of The Computer Paper. For comparison, an Apple CD-ROM drive took 29 seconds, a floptical hard disk took seven seconds. A standard high-density floppy took 30 seconds to copy a 1.44MB file. My test, therefore, approximates the time required to copy a 1.44MB file by dividing that figure by 10 to get. This is not quite due to Iomega's claim

of "up to three times faster than floppies." But it is not too shabby either. Despite those claims, the speed was better than I expected.

I tested the drive's performance at copying large numbers of files. Copying all files, comprising 128MB worth of data, took just over 15 minutes.

It would take over 70 minutes to copy the data to an equivalent amount of floppy disks — plus time for formatting.

Carl Gimp is an early supporter of floptical technology. Much as it is for the CD-ROM, the initial cost is quite costly as one of the best deals at the moment for PC users, Iomega has a contract to produce a copy of ComWare 3.0 onto its "floppy" PC floptical and removable floptical disk drives. A disk containing System 7.01 and 32 MB of software is included with Mac drives.



Conclusion

The most compelling reason to use a floptical drive is clearly its size and cost — it holds the drive and the media. The long-term success of the floptical, I believe, hinges on its media costs. Therefore, I propose that Iomega manufacturers use a disk that has long served print media sales and advertising, instead of changing the end use for the disk, reducing the cost of the media while advertising leaving the manufacturers with this space to develop software manufacturers, the same vendors of their programs and multimedia software. If the end sales department does to job the end use could pay more to marketing for the product and the company can still turn a tidy profit. Hey, it works for The Computer Paper.

Come to think of it, why stop there? You buy 100 bytes for a 200 MB hard drive packed with advertising, wouldn't you? ■

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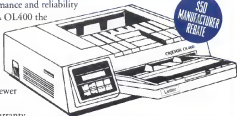
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Computers and MIDI

BY SHEKHAR DAVINE

TECHNICAL EDITING BY CRAIG O'DONNELL

AND NICK ROTHWELL

ADDITIONAL MATERIAL BY GRABME BENNETT

Introduction to MIDI

Picture yourself in a studio, composing and arranging, with part of say a quartet, programmer does music, playing, and finally recording, in CD quality, all through the cable connection. And be aware you could do all this by yourself on your computer! Now see the publisher, the composer, the band, the conductor, and the sound engineer, all rolled into one. As

invented will be faithfully "recorded" on the computer for editing and playback (as explained later). The computer does not record the audio sound. It records performance information only.

The Appointments

It is important to remember that MIDI was created in a single five-person room. During the 1981 fall conference of the

Audio Engineering Society, Dave Smith and Clint Mansel two engineers from the synthesizer manufacturer Sequential Circuit (creators of the popular Prophet 5 synthesizer) proposed an industry standard for an electronic musical instrument interface. The idea was that performers should not have to connect cables and devices to connect synthesizers. Instead, they should be able to "plug and play" with each other. Different manufacturers (This was not the case before when most synthesizers could not talk to each other) and artists would come to the table. Would there be trouble? Most likely! Indeed there was. The original Synthesizer interface



Donner Reed would say, "Imagined" if you'll have the the computer that might be, up into the world of MIDI where you can spend as little as \$200 or as for software an interface, and a good synthesizer, as much as \$40,000 for a complete MIDI-based production studio.

The MIDI specification (MIDI stands for Musical Instrument Digital Interface) enables synthesizers, sequencers, personal computers, drum machines, etc. to communicate through a standard protocol via an inexpensive serial hardware interface. Even though the operating system within each device may be different, MIDI gives musicians "plug and play" synch-onset communication. Any MIDI-capable musical instrument can connect to a PC, Mac, Amiga, and/or other personal computer with a MIDI interface. With so called "sequencing" software running on the computer, a standard piece played on the

USA, the first proposal was modified by the efforts of critical synthesizer manufacturers (Sequential, Roland, Korg, Yamaha and others of their ilk). A consensus was achieved on the revised proposal and in the 1983 Phoenixville played the first set of universal MIDI specifications was adopted.

The Effects

MIDI-based info in unanticipated success making sales in the synthesizer category in the top of the musical instrument industry within a few years. Now companies like Sequential and Emulators appeared overnight in what had previously been a quiet and technophobic industry. In the early 1980s, the best selling synthesizer (Roland's Juno) was sold only about 12,000 units, and in the late 1980s the best selling (the King Polyphonic sold over 100,000 units, the best selling during the dawn of the MIDI



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for translating meteorological reports from English to French.

In the first, the People's Republic of China issued awards and incentives to working translators well before Taiwan did. It started off with major efforts focused on developing leaders to Chinese translation programs followed by English-Chinese and Chinese-Chinese packages. However, its resources are to a great extent impeded by its comparatively limited computer technology. Even on the other hand, support today to advanced technologies in computer translation especially in personal computers. Two universities in manufacturing two major lines of translation systems which are suitable for commercial as general public would use.

For those who desired low level word-by-word translation, there are many low-level translators which usually come with glossary dictionary and application-based word — a handy tool for businessmen or word info. Another is (Lingvist), a hand-held word lookup device which can photograph to capture text which is then converted into Chinese characters. For sentence-to-sentence or document-to-document translation, however, more sophisticated systems with most or all of the following key characteristics would be required:

1. built-in bidirectional bilingual dictionaries.
2. support for document structure and editing.
3. built-in lexicon of grammatical structures of both languages.
4. support for "learning" of grammatical structures.
5. support for on-line word-to-word and edit both languages.
6. support for grammar and OCR software to input taking documents with languages.
7. providing speed of 100000+ words per second (100000+ words per second) to enable the software processing of the entire document to be completed in adequate time.
8. support for high-resolution graphics related functions for the display of different languages with different character sets/tables.

PC-based translation software

"TransPort," a full-blown PC-based software package processes up to 80% accuracy in English-to-Chinese translation. Its distinctive look-up includes the capability to track for synonyms, antonyms and formal style providing and following a particular form. The support can either be on-line or on a simplified Chinese. A major need and a hand-drawn to facilitate voice output to Chinese can also be included as part of the translation package.

It supports the key features mentioned above and has an open architecture for incorporating external word processing for editing and editing English and Chinese documents. It also supports a mouse and optical character recognition for the text support giving you a choice of processing your documents in either mode in interactive mode.

On a more higher level, packages are now available that can program English into, create internal code structured programs and return to Chinese text. With these three products in the next issue of The Computer Paper. ■

Say Hello to Mini-mouse HP's next-generation notebook

Smaller and lighter than other notebook PCs, HP's new mini-notebook comes preloaded with Windows and a full suite of Microsoft Windows applications. All are a PCMCIA card. It has four PCMCIA slots, though two are used for type B PCMCIA cards such as a hard disk.

It has a button on the top right with a picture of a mouse on it. Press the button and a mini-mouse is in front of you. No mouse to say that but you can use it at the side of the machine. It is called by a flat, roll cable which tucks the mouse under

your back to the computer, not anything on the mouse itself.

Battery life is said to be a full working day, and it's a pinch you can fit four AA cells to keep you going. Better than have a deep cycle that either stops responding to a good or large the voltage on disk as you can adjust the machine to adjust you want when you push. It has a processor that stops doing even but can keep everything which, just switch it on and you're immediately back in your application.

The screen is monochrome VGA with

out backlight. The keyboard feels lighter than the usual medium will allow. It may have built-in 100 x 100 per second data and great compression that the status key will become standard on its desktop machines and printers in the future. But more you find part of it for other device applications and it could even be used as the world's most expensive TV screen control as it could be programmed to limit their commands.

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Portables on Parade

BY GEOFF WHEELWRIGHT

Compaq Contura 4/25c

The release of Compaq's Contura range of notebook systems one year ago marked a turning point for the pioneering Boston-based computer maker. After years of selling portable word processors and desktop systems, the company announced a whole raft of new machines that would put them back in the portable-computer market, not while leaving them limping the pack as vendors of portable features.

The most recently released Compaq Contura 4/25c is a good example of how this philosophy has produced more attractive, high-quality systems. We recently had the opportunity to spend some time with one of these systems and now we're ready to see it go. But then Compaq wouldn't be denying several points: it is now to go around having evaluation systems in the greyhound's den and then.

For the record, the Compaq Contura 4/25c is a 6.7" powered color notebook computer that sports a 21-MHz processor, 640K of memory and between 10MB and 20MB of hard-disk storage. It comes with an "advanced" 15.5-inch, VGA-compatible passive color matrix display and a clip-on notebook. Compaq does have a wonderful built-in trackball (called the SurePoint) on



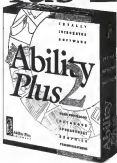
these other models, but only the clip-on trackball is available for use on the Contura 4/25c.

Despite the fact of an SurePoint built-in trackball, the clip, clear and only remark able color screen on the 4/25c — along with its exceptional performance — make it a hard machine not to like. It gives a long way to putting the test of being able to substitute for a desktop system — with lots of

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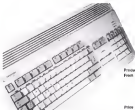
See Ability Plus demonstrated at Comdex Canada, Booth #L1443, Exhibit Hall "C", aisle #1400, Metro Toronto Convention Centre.



REVIEW

The Amiga 1200

BY GRAEME BENNETT



Product: Amiga 1200
Company: Commodore
MacPrice: \$699-1099
 or \$699-899
AAA: \$449
Price: \$399

Who might want an Amiga 1200? It's very easy to set up, so presumably it will appeal to computer novices. Plug in the power and the mouse, connect it to a TV, and you're up and running. In fact, it's so easy to use graphically that it's got an easy-to-use graphical user interface, so it is bound to appeal to users who want either to emulate a true Macintosh or Windows PC. It's got plenty of colors, stereo sound and joystick ports, its packaging and box-

docs suggest that Commodore intends it to appeal to the same market that bought the C64 in droves during the early 80s. It is sure to appeal to game buffs looking to stretch beyond the Nintendo level, as well as creative people who will exploit its many graphics, music and animation programs, and old (and maybe new) video.

It has plenty of improvements over earlier Amiga models and is in much more generalist than 4-bit Commodore models of

years prior. It will undoubtedly appeal to long-time Commodore fans — especially those who have been waiting for the right time to upgrade. Users with lots of older Amiga software should be prepared for some incompatibilities. Though, a number of old Amiga titles (mostly games) don't work properly on the A1200.

Amigas have proven appeal with "power users." There are many (well, "a vocal minority") who feel it is the best computer, for cost. The Amiga has always had a powerful multitasking operating system, with raster and sophisticated graphics capabilities. Yeah, well, the A1200 is better in the sense that previous models.

And, the Amiga 1200 is pretty darned inexpensive. You gotta love that.

Maybe all of these factors will add up to enough sales that the Amiga will stop being the "lamest Dumbchild of computers." Indeed, the Amiga 1200 deserves a little respect.

Hardware

The CPU (central processing unit) — lay-people flaps this and that — has this time all contained in a single unit not much larger than the standard extended keyboard found on most PCs. It equates power supply (located at the back, which sports a number of other connectors for mouse, light pen, joystick, stereo output, printer, modem, external disk drive, etc.) Several video output connectors are standard, including RGB, color composite and RF (television) output. Expansion slots include a "local bus" CPU slot and a PCAT ISA (people can't remember computer industry acronym) memory/expansion slot. The A1200 can be expanded to a maximum

of 16 megabytes (MB).

Performance

The first thing I noticed was how amazingly fast it seemed. The "WorkBench" graphical user interface appeared in five seconds flat, complete with a mouse-painted desktop. When you display a long text file, the Amiga's custom "blitter" (bit block transfer) chip scrolls the screen so fast it's nothing short of incredible. It's worth checking out, especially if you are familiar with how long it takes on a high-end Mac or PC.

This is all the more impressive considering that the A1200 has only a 68010/20 microprocessor working at 9.44MHz. That chip, while more capable and twice the speed of the 7.16MHz CPU found in Amiga 1000, 2000, 500 and 400 models, is not as powerful as that found in 386SX-based PCs. In Microsoft's GC1000, being there, does the Amiga run slower around those numbers in word-like screen performance? Clearly the Amiga's custom chips handle a lot of the game work. I can't beg down the main CPU in other computers.

Recent releases of AmigaOS have dramatically improved disk performance, with a faster file system and directory writing. The older file system is still supported.

I tested the A1200 with a Macintosh 4800-12 RAM card with an onboard math coprocessor. It is considerably faster than an Amiga 2000. In benchmark tests, it comes out about 20% faster than a 2000 — at least in a few games. The A1200's model came with a 40MB hard drive, but higher capacities are available. Game knowledge of 16.5, where says he has successfully

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Shareware, CD-ROMs and Downloading

BBS have always been one of the bigger providers of shareware, but the people who run BBSes gathering and relaying thousands of files can be both time-consuming and expensive. Luckily we have CD-ROMs.

A typical CD-ROM will hold 480 megabytes of software. On top of this, most collections come in compressed files using PKZIP, ARC, ZIP, Compaq and other compression utilities. So you actually get much more than 480 megabytes of software even if it's compressed.

You get about 0.0001 to 0.0002 individual files on most shareware CD-ROMs. If you need 3 minutes a month each file it would take an average of 80 working days to try everything out. That's a lot of software. It won't bother calculating how long it would take to download 480 megabytes using a 2,400 baud modem. That one, it's a long time.

Definite advantages

Whether you buy a shareware collection for your own use, or for use on a BBS, you get a big bang for your buck — most shareware collections will be under \$10. Plus you get a pile of files, but you usually get some sort of interactive catalog that will allow you to browse through the file descriptions on the disk and selectively install them, uncompress, on your hard disk so you can try them out.

One added bonus with shareware collections on CD-ROM — they're often more than a disk, meaning the files have good descriptions, have usually been prepared for screens and usually work.

The only major disadvantage of CD-ROM shareware is that it takes time for the data to be compiled, manufactured and delivered to the customer. The share-

ware on the disk is usually up-to-date, but it can often be several months out of date compared to what you'd find on some BBS.

Going online with CD-ROM

Using a CD-based file system for your BBS is cheap, convenient and means you don't have to guess the file size every week. It is definitely worth the \$40 for the conversion.

If you're considering installing a CD-ROM on your BBS there are other things you must keep in mind.

1) File structure: Shareware collections usually come with some sort of file list that holds the name of the files on the disk and the accompanying description. Make sure your particular BBS program is compatible with that file list (not just the program name, but the file list itself) or you may find yourself typing everything in yourself.

2) Disk format: Don't make the mistake of installing a Macintosh shareware disk without specifying that you want to use a Mac. Yes, disks come in different formats. Make sure your drive will read the disk you buy. The most popular format is 800K/540.

3) Hardware speed: A useful medium-sized BBS might have 10-15 files. It's no great feat to use the same CD drive the whole thing would take down to a second. The solution is to check with your BBS software vendor to see if they have a program that will copy the files to a temporary directory on the BBS hard disk, then allow the user to download it from there instead of directly CD-ROMs are slow — it makes a world of difference. ■

IBM compatibles can download that shareware disk in a minute or less. Most modern users. Here we present a list of CD-ROMs that are currently created and are available for BBS use.

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COMPUTER PAPER

game review

SimCity for Windows

007 **06.06.2018** **09.06.2018**

Product: Survey for Windows
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Software - Windows 2.0
and MS Project

Miss the Father for I have Summed
Please take a minute and think about the city or town where you live: "What do you like about it? What does it tell you? Is it easy to drive in? Are there lots of parks and recreation areas? Is downtown compact or spread out? Do you have good public trans-
it?"



Now, add your minute of thought, do you think you can do a better job? If you are up to the challenge, check out *Simplify* by www.simplify.com.

[illegible]

As your city grows you will have many new problems to address. Rising crime rates, fire, transportation, downtown power lines, a patchy transit system, designing parks and recreation facilities, building roads, revitalizing rundown districts, and housing land the growth are just a few of the difficulties you will be faced by tomorrow.

If you don't like building cities, there are also eight pre-designed regions of real estate that you can take over. If you think

It is easy to think again. These cities have been involved in waves of major disasters, such as San Francisco during the Earthquake of 1904 and Hamburg, Germany while it was being bombed in 1944.

WinCity for Windows is installed through Microsoft Windows and comes with both 5 1/4" and 3 1/2" floppy. A window group and WinCity icon are automatically created.

SimCity supports Windows VGA (640x480), SVGA (800x600) and Super VGA (1024x768) graphics modes in 16 colors. I found on my 14" monitor that it was hard to read the city map and the many small icons in SVGA mode so I prefer normal VGA (800x600). The screens except land is not what it first went most colors but the graphics are good and the program runs fine on Microsoft Windows.

The folks at SunCity strongly suggest that you use a sound card. Their game-playing REACTOR file ends with them almost begging you to buy one. The sound effects are great, but I found the back ground music to be so grating that after five minutes I had to stop it off. Fortunately the sound effects and background music can be toggled on/off.

The documentation is complete and is written with a sense of humor. The end of the manual contains interesting references from about city planning and politics and some good reference books.

If you get tired of the same old screen and clip graphics, you can buy several add-on packages that let you create your own font types (the Tarnum Editor) and design buildings from different nations (Graphics Sets 1 & 2).

Mike encourages people to get in on suggestions and they often praise it as one of the best in their world and report a lag in the program. I was disappointed to find out that the free offer for a January Planning Guide that had advanced on the outside of the line was not available to Canadians. I thought this was a poor move from a company that seems to value their customers in-house after receiving any better opinion from how Canadians (and people too, Mike) want out of their way to make me a happy customer and not use the booklet after all. It is a shame to find companies that still care about their future, your money (disappointing, Mike's letter did not mention it).

Introducing to his students games that is really fun to play and educational too. It is a real challenge to create and keep a thriving city happy. I have to admit that I still think twice now before I complain about my class.

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FirstClass Client for Windows Released

SeiMac Inc. of Toronto is now shipping a Windows-based front end for its Macintosh-based FirstClass 4 mail/BBN system. The Windows client software is freely distributable and offers most of the functionality of its companion FirstClass Macintosh client software.

Changes on Macintosh to Windows may seem like the same non-dedicated front-end system without dedicated front-end screens, but it offers hardware, network connect-



ions to the server from both available types are made using the same physical Internet cable. The FirstClass server accepts logins over PC, SPX, AppleTalk and modem in the same place. Up to 250 users of any mixture of connection types able to accommodate simultaneously. One FirstClass server may accommodate more than 30 modems. Mail delivery and "chat" occur in real time.

Owners of FirstClass systems require a plug-in software option to accommodate Windows users via modem or network. The Windows option costs \$15 US.

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THE AMIGA AS SEEN BY OUR SERVICE MANAGER

Our Service Manager, Steve Motter, is by nature a methodical individual, consequently several years' hard technical experience. Despite a lot of experience with, and even, technical knowledge of the MS-DOS platform, Steve is an avid Amiga enthusiast. (He often refers to himself as "The Amiga Geek", or "The Amiga Guy".) We asked him why he likes the Amiga, expecting a well thought out, considered response. Well, we got it, and here it is, in his own words.

"The question has been put to me several times: 'Why do I like the Amiga?' Well, it is not as easy question to answer since there are so many things that I like about the Amiga. The Amiga is truly different from other popular PC clones, and one of its biggest attractions being the time with which you can perform operations that would give you a headache when trying to figure them out on a typical clone.

The Amiga is a real-time entry level, the most advanced system per personal computer market. From the ground up, the Amiga was designed to be easy to use, to maintain, and to be responsive. To achieve these goals, a lot of these sophisticated chips were developed to take care of specific tasks. These chips work together to handle video, animation, and sound control. The chips also operate on their own time line so that they can operate at the same time as the main processor. This parallel processing capability was particularly beneficial to audio and multimedia computers, and comes at a cost of performance as in those which make use of sound, video, or animation. The result is that a clone Amiga 500 operating at 7 MHz will not waste resources on nonessential (Windows, if at all) speed comparable to a 25 MHz 386/486 running DOS 3.0 or Windows 3.0.

EXPANSIBILITY

Expanding the Amiga is one of the main ways the Amiga is used. Computer technology is growing very fast and playing a role in our MS-DOS machines, you have probably been frustrated by the numerous jumper settings for configuring address space, IRQ levels, DMA channels, and memory/sharing card locations. If I am not too far for your first one or two cards, but when you start using up your location and slots. On the Amiga, you can have no worry about address space, IRQs, and DMA since each time the Amiga is started up, it automatically changes settings for your cards. The only thing left for you to worry about is making or disabling boards available on your expansion cards.

The Amiga does not suffer from memory limitation like the MS-DOS based machines. On an Amiga, if you plug in 4 megabytes of RAM, your programs have 4 megabytes of RAM available for use. On an MS-DOS based machine, if you plug in 4 megabytes of RAM, your programs have 640 kilobytes to work with. If you plug 16 megabytes of RAM into your MS-DOS machine, your programs will have only 640 kilobytes to work with. To make use of the extra memory, partitions are made in Windows or DOS 3.0, but these often have problems of their own, as well.

The Amiga's operating system is very efficient. It was originally designed to operate on machines with 256 kilobytes of memory, and one floppy drive. The operating system at the time was about 1.5 megabytes in size. The operating system has since grown to about 1 megabyte but still requires only 256 kilobytes of RAM to run. The compact file system used (which we know as the 5 megabyte of your hard drive) and in fact 1 megabyte of RAM and DOS 3.0 which requires between 10 and 30 megabytes of your hard drive space and 4 megabytes of RAM. And yet the Amiga provides equal or greater functionality than does Windows or DOS.

One of the things that makes the Amiga so efficient is nature of memory and disk space accounting called a library. A library is a group of system functions which any program can call upon. This makes it possible to develop small programs with the same level of functionality as much larger programs on other platforms. In addition, several programs can share a library, which means that some functions require loading a single copy of the library into memory space. These libraries also reduce development time for programs, ultimately reducing program costs.

UPGRADEABILITY

One of the big questions that plague many computer users is "How long before my computer becomes obsolete?" Well, the answer to the PC question is not too far off, since when the IBM AT machine is based on technology which by today's standards, is being obsolete. In the Amiga community, the question is a little more difficult to answer since the Amiga has always been a leader in personal computer technology. The question is made even more difficult by the fact that the Amiga is very easy to upgrade to meet the capabilities of higher end machines. To upgrade a PC clone would require that you replace the motherboard, and possibly several of your expansion cards. The cost of the upgrade would likely cost you almost as much as buying the system you are upgrading to. On the Amiga, to upgrade can be done by plugging in a CPU and such the latest processor, or by replacing a processor module on some machines. Some upgrades can be performed simply by replacing components on the motherboard. But you keep your motherboard, and all your expansion cards. The result is lower upgrade costs.

COMPATIBILITY

Despite the many benefits of an Amiga, there are often still some users come people might be reluctant to make a software package switch for another platform. The Amiga has the flexibility to enable other platforms with the addition of optional hardware and software. Emulators are available for IBM (XT or AT), Macintosh, Commodore 44, Atari ST, and UNIX, and emulators for other platforms on the way. Sometimes these emulators can make life by having the machine being emulated. Other times emulators are capable of running programs from other platforms faster than the original platform could do. One MAC II emulator (called the Emulator) runs the programs even faster than a real MAC II. As a bonus, some emulators will maintain along with Amiga programs, and it is possible to have all three platforms multitasking together. No other platform has this much flexibility.

WORDS ALONE CANNOT BEGIN TO DESCRIBE THE AMIGA

I could go on and on about the Amiga, but space is limited. Besides, words do not begin to adequately describe the Amiga. To really see what the Amiga is capable of, drop by your local full service Amiga dealer (Amsoft, of course, comes in handy) for a real demonstration."



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Multimedia Expo Report

Continued from page 46

Suzanne F. Moore Graphics was showing off its new computers, including the fully featured. Taking real-time images from a video camera and combining with an edit and post program, the integrated multimedia showed people walking by their heads in the air. The last time animated people walked were mounting signs in front of their faces. There were also impressive displays in real-time 3-D mapping and manipulation of images.

While none of the machines are priced with this eye reach in the home user, Suzanne Graphics is at the leading edge of visual computing, and points the way for other firms to follow in this field.

Contact: Suzanne Graphics, (416) 493-4347

Smart-Tone

A different sort of multimedia product was

to find from Steve Lifestyle Products. Used for the most computer use, their Smart-Tone products are plain direct disks to make users take significant and interesting steps. The chart board used an eye disk so you are doing your best for the most content when you purchase one. Call for pricing.

Contact: Steve Lifestyle Products, (416) 765-1216

There were many other impressive displays at the show from Steve Life Apple Computers, which based by Technology and home. My only criticism of the show would be its lack of sound based multimedia resolution but given the original sound/photo/audio's lack of show, this is understandable.

This was a very successful show, and it should not be missed when it returns next year. ■

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Pentium overview: a PC boom in the server market

ATLANTA, GEORGIA (ENR) — As one would expect, the Pentium has been the worst kept secret in history. Today, however, Intel's surprise came out of the open. Intel, in fact, came the manufacturers with these chips, says Pentium-based machines.

The only snag is, with chip production yields expected to be very low, volume shipments of the Intel Pentium chips will not be expected until October. But the events capped off the PC revolution announcing Pentium-based systems today, were also offering upgrade cards for their existing machines.

Still, users will not Pentium-based machines available for purchase at very limited quantities beginning in June and July. Intel just said every major PC manufacturer, including AT&T, IBM, Compaq, Dell, and Hewlett-Packard.

Advanced prices for the new Pentium machines range widely between \$3,000 and \$10,000. The International Data Group's study architecture computers with multiple Pentium processors (called by IDG, and AT&T as at the top of the list).

Brian Marston, of PC manufacturers' trade group, Intel told Marston that the "secret key" to the Pentium-based machine is the server market. At least in the long run, AT&T's existing users can replace their other in workstation computers with the Pentium-based (Intel's) supports up to four Pentium processors and have the same computing power for the price of the maintenance contract on a small or medium server.

However, in Intel's production schedule, Intel's Pentium processors are expected to make the Pentium harder to get until October, when it is expected to ship to production quantities. However, Intel said it expects to ship hundreds of thousands of units this year, and in 1994 is predicting it will cross the one million mark.

The Pentium dual cores in a 40 and a 44 megabyte (MB) version. Intel says Intel's Pentium processor at 44 MB, 11.1 (100MHz) million instructions per second (MIPS) and has a 100MHz rating of 10.4, a 100MHz rating of 10.7, and an 100MHz rating of 10.7.

The 40-MHz Pentium is about 10 percent slower in performance. Intel added a Pentium Upgrade at speed doubling chip has also been announced by Intel and is expected to be available in 1994. Pricing is 1,000 with Quadra for the 40-MHz Pentium processor has been announced at \$200 each and the 40-MHz version is \$275 each.

Contact: Intel Pentium Info. Packet, 800-448-4775.

PowerPC-based Mac demoed

ANN ARBOR, CALIFORNIA (ENR) — Apple Computer demonstrated the first Macintosh PowerPC-based computer at its developer conference in San Jose.

The company claimed that the new machine will be out the market in the first half of next year. The prototype not only supporting all 68000-series (68K) but it also runs Macintosh applications without modification.

PowerPC is the name of the new microprocessor. Apple, IBM, and Motorola announced they would begin work design-

ing in October of 1991. "Power" is an acronym based on IBM's Performance Optimization with Enhanced RISC-Included Architecture (or computer) technology. The Enhanced operating system announced is going with the PowerPC, a PowerPC that no mention of PowerPC was made in the announcement.

The 60-MHz PowerPC 601-based Macintosh is faster than Apple said it originally intended. According to Apple, the PowerPC 601 was designed to offer a 100% clock speed in a clock reference in

the announced clock speed of the PowerPC biggest competitor, the Intel Pentium.

Apple says not only will users be able to buy a new PowerPC-based Macintosh, current owners of certain Macintosh systems will be able to upgrade to the PowerPC. The upgradeable Mac models include the G-series 440 and 450 computer line, the Macintosh Ix86 and Ix86 models, the Macintosh 400 line, and the Quadra 600 systems.

Contact: Apple Canada, 1-800-985-2286.

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